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reactions for two productions of the investigation of any and and targettial forces is colloided systems and polymer solutions with their color attained by complete. The apparatus consists of a formal solutions of the investigation of the i

imeogoniometer with freely ...

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where Fr in the merial force er unit length at radius r. A capacity siche is used to obtain signals showing the growth of the deformation process from a condition of rest to uniform flow. The influence of non-parallel axes for the discs and cones is investigated for various values of clearance between

tile!!. There are 7 figures.

Assection: I we that fixed eshoy khimin AL SSSR (Institute of Physical Chemistry, AS USSR)

ocalimin: September 12, 1961

Card 2/2

CIA-RDP86-00513R001240630008-7" APPROVED FOR RELEASE: 06/15/2000

PETRZHIK, G. G.

Polymerized oils. I. S. Malikov, V. I. Zabel'skii, P. N. Bogatyrev, G. G. Petrzhik and S. M. Dridze. Russ. 53,401, June 30, 1938. Drying, semidrying or nondrying oil is polymerized at temps. up to 3000 in the presence of 5-10% unsatd. org. compds., such as isoprene, undecylic or acrylic acids or their esters, styrene or divinylacetylene.

TRAPEZNIKOV, A.A.; MOROZOV, A.S.; PETRZHIK, G.G.

Normal stresses in structurized colloidal systems, and the effect of the thixotropic recovery of structure on them.

(NIBA 13:12)

1. Institut fizicheskoy khimii AN SSSR, Moskva Laboratoriya oleokolloidov i monosloyev.

(Colloids)

Electroconductivity of nonspienus killind systems. While as a chizanth of the contents gels of alkid resins. Early, there are contents gels of alkid resins. Early, there are contents of the work of a chizanth of the consequence contents as a content of the cont

Finishing of certain types of fabrics manufactured from a mixture

Finishing of certain types of fabrics manufactured from a mixture

of cotton and synthetic fibers. Tekst.prom. 21 no.9:60-62 5 161.

(MIKA 14:10)

(Textile finishing)

```
PETRZHIK, G.G., kand.tekhn.nauk

Shrinkage of textile fabrics. Nauka i zhizn' 28 no.1:77-78 Ja

(MIRA 14:1)

1. TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti.

(Textile research)
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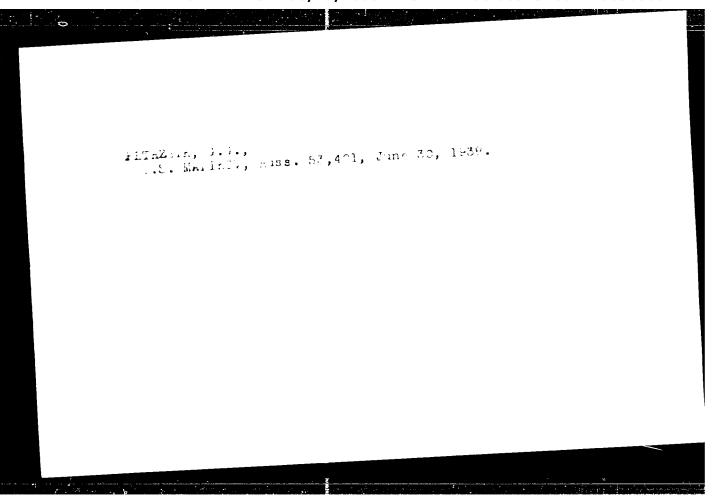
TRAPEZNIKOV, A.A.; MOROZOV, A.S.; PETRZHIK, G.G.

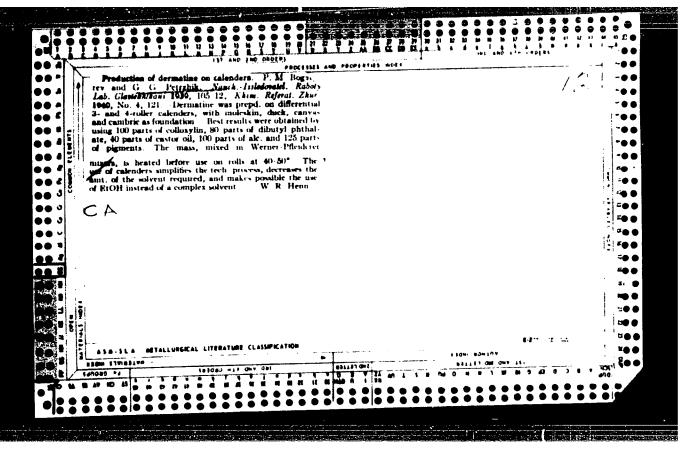
Dependence of normal and shear stresses on the magnitude of strain when aluminum naphthenate gel passes to a steady flow from a state of rest. Dokl. AN SSSR 133 no.3:637-640 (MIRA 13:7) J1 160.

1. Institut fizicheskoy khimii Akademii nauk SSSR. Predstavleno akad. S.I.Vol'fkovichem. (Naphthenic acid)

Petrzhik, 3. 5. - "aucoar-tre ter solweger olet for agricultral eres tide machinery", karch.-isster. trudy (leener. la. ... ere ere agricultral eres tide protesti), assue 2, leere, 10 -Oh.

So: (-hllo, 17 July 3, viene ere tamena thyan ber ey, as. 15, leere.





MOROZOV, A.S.; PETRZHIK, G.G.; TRAPEZNIKOV, A.A. Rheogoniometer with a freely hung disc and continuous recording for cross-linked colloidal systems and polymer solutions. Prib.

(MIRA 16:7) i tekh. eksp. 7 no.3:153-157 My-Je 162.

1. Institut fizicheskoy khimii AN SSSR. (Goniometers) (Rheology) (Polymers)

CIA-RDP86-00513R001240630008-7" APPROVED FOR RELEASE: 06/15/2000

ARKHIPOVA, T.N., starshiy nauchnyy sotrudnik; PETRZHIK, G.G., starshiy nauchnyy sotrudnik; USPENSKIY, L.K., starshiy nauchnyy sotrudnik

Increasing the resistance to abrasion of rayon staple fabrics having a crease- and shrinkage-resistant finish. Tekst.prom.

(MIRA 16:5)

1. TSentral'nyy nauchno-issledovatel'skiy institut khlopchatobumazhnoy promyshlennosti (TsNIBKhI).

(Textile finishing)

PETRZHIK, G.G.; D'VYDOVA, Ye.Ya.; LEZNEVA, L.V.

Pigment dyeing of textile fabrics. Tekst.prom. 21 no.3:44-45

Mr '61.

(Textile fabrics) (Dyes and dyeing)

(Textile fabrics)

5/020/60/133/UC3/C30/C11/XX B004/B064

Trapeznikov, A. A. Morozov, A. S. and Petrznik, G. AUTHORS:

The Dependence of Normal and Shearing Stresses on the Extent TITLE:

of Deformation During the Transition of the Aluminum Naphthenate Gel From the State of Rest Into Steady Flow

Doklady Akademii nauk SSSR, 1960 Vol. 133, No. 3, PERIODICAL:

pp. 637 - 640

TEXT: The authors aimed at a quantitative determination of the development in time of normal stress as a function of deformation during a continuous transition from the state of rest into steady flow. The experiments were conducted with a 2% solution of aluminum naphtwenate gel in Vaseline oil To render possible a simultaneous measurement of normal stress $\mathbf{F}_{\mathbf{n}}$ and shearing

stress P_{η} , a rheogeniometric apparatus supplementing the plasto-viscosi-

meter was designed (Fig. 1). In principle, it consistes of a flat cone combined with a disk. The perpendicular displacement of the disk under the action of the normal force F and its rotation under the action of the

Card 1/3

The Dependence of the Normal and Shearing Stresses on the Extent of Deformation During the Transition of the Aluminum Naphthenate Gel From the State of Rest Into Steady Flow S/020/60/133/003/030/C31/XX B004/b064

torque of the tangential force F_{τ} were measured with a spring dynamometer and recorded with an electronic potentiometer of the type $\exists \Pi \Pi = 09$ (EPF-09) or an MNO-21 (MPO-2) loop oscilloscope. Fig. 2 shows P_n and P_{τ} as a function of deformation, ξ , at various rates of deformation. The viscosity determined from $\eta = P_{\tau, \xi}$ (the subscript s denotes steady flow), falls, as a rule with rising $\dot{\xi}$ (Fig. 3). Fig. 2 indicates that P_n and P_{τ} have a maximum.

T. G. Shalopalkina and A. A. Trapeznikov obtained the same result in 1955, as may be seen from Fig. 4. The experimental data show that at ξ) 1700 the structure of the system undergoes changes exerting a stronger effect on normal stress than on tangential stress. The normal stress depends on the entanglement of the particles. The longer and the more entangled they are, the greater is F_n in the stress. The second maximum $P_{\tau, \xi}$ and $P_{\tau, \xi}$ is due to the destruction of structural elements that, after the destruction of the initial network, were formed by orientation in the flow. There are 4 figures

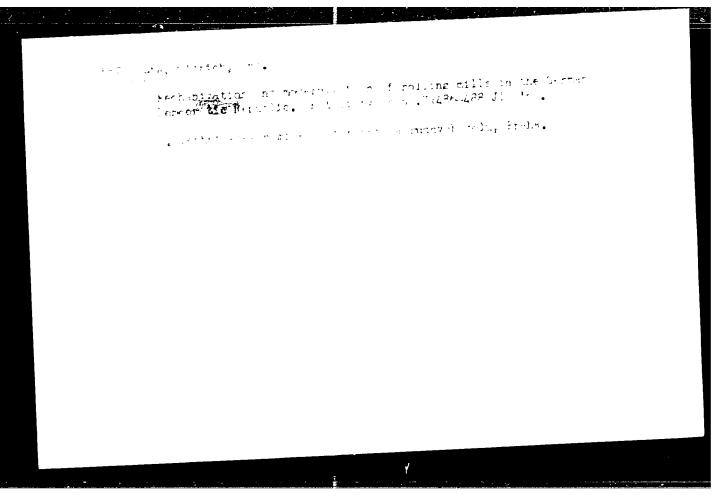
Card 2/3

SIMIGIN, P.A.; ZUSMAN, M.N.,; RAYKHLIN, F.I.; ROGOVATA, I.V., redakter;
GORDON, N.B.; retsensent Franklin, G.G., retsensent; MEDVENTEY,
GORDON, H.B.; retsensent, G.G., retsensent;

PETRZHEEVICH, M.P.

Medicolegal expert testimony for the exclusion of maternity. Sud.med.ekspert. 2 no.4:58-59 O-D '59. (MIRA 13:5)

1. Kafedra sudebnoy meditsiny (zav. - dotsent Z.I. Safonova) Omskogo meditsinskogo instituta i Byuro sudebnomeditsinskoy ekspertizy Omskogo oblastnogo otdela zdravookhraneniya. (BLOOD GROUPS)



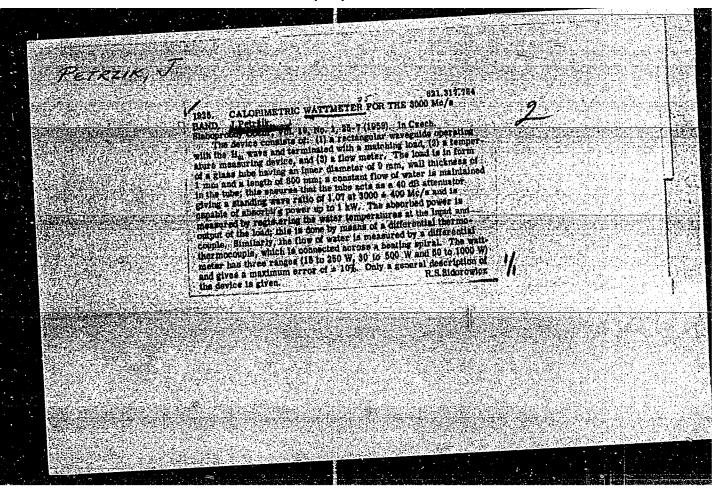
Peripheral interactions of 7 Bev. T-mesons and nucleons. Zhur.

Peripheral interactions of 7 Bev. T-mesons and nucleons. Zhur.

eksp.i teor.fiz. 44 no.521497-1499 My '63. (MIRA 16:6)

1. Cheshskoye vyssheye tekhnicheskoye uchilishche, Praga.

(Mesons) (Nucleons)



CZECHOSLOVAKIA

PETRZIK, Jan, MVDr

Dodoma, Tanzania

Brno, Veterinarstvi, No 3 [March] 1967, pp 132-135

"The veterinary service in Tanzania."

Antibacterial properties of a juice prepared from several tomato varieties. Pishch. prom. no.1:103-110 165.

(MIRA 18:11)

PETRZHIKOVSKATA, L.M.

Bactericide properties of tomato products. Izv.vys.uchab.zav.;
pishch.tekh. no.1:87-93 '60. (MIRA 13:6)

1. Kafedra biokhimii i mikrobiologii Odesskogo tekhnologicheskogo instituta pishchevoy i kholodil'noy promyshlennosti.

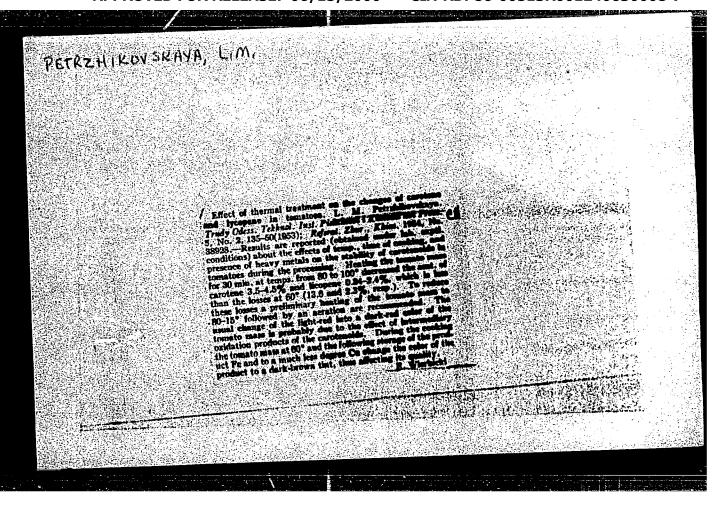
(Tomato products) (Bactericides)

KIROVA, Kira Aleksandrovna, dots., kand. tekhn. nauk; SLYUSARENKO,
Tamara Platonovna, assistent; VESELOV, I.Ya., prof., retsenzent; <u>PRTEZHIKOVSKAYA</u>, L.M., dots., retsenzent;
BAKUSHINSKAYA, O.A., kand. biol. nauk, spets. red.; HELIKOVA,
L.S., red.; SATAROVA, A.M., tekhn. red.

[Laboratory manual on microbiology in the food industry] Ruko-vodstvo k prakticheskim zaniatiiam po mikrobiologii pishchevykh proizvodstv. Noskva, Pishchepromizdat, 1961. 321 p.

(MIRA 15:3)

(FOOL-MICKORIOLOGY)



PETZHIKUTENIA, I. I	
Production of Control (1988) and the first of the first o	
	Dissertation: "Effect of Use" of Conitions of Undivided Retail. To the Conition of Processing on Contention." of the Island Contention of the Contention of
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C NR: AT6021502	(A)	SOURCE CODE: UR/0000/		
JTHOR: Petrshikovske	ya, L. M. (Can	didate of Technical So	ciences)	18
RG: none			•	BH
	l-t-matus wwash	juices of various type nego i srednego spets od industry), no. 1.	ial'nogo obrazova	aniya. nnika, 1965,
03-110				
03-110 OPIC TAGS: food tec assemb facility Pa	nnology, bacter ANT GROWTA	ria, microbiology, zoo H , PIANT ('HEM157	~ 7	:
O3-110 OPIC TAGS: food tec OSCIPLE PA BSTRACT: The antiba nd tomato hybrids, c nstitute im. Lysenko	nnology, bacter ANT GROWTA cterial proper altivated at ex (Genetiko-sele	ria, microbiology, race 1 , PIANT ('HEMIST ties of juice from 26 Experimental stations of the state of the	different types of the Genetic Plant have been studied approximent possion	of tomatoes ant Breeding d for 5 ass sub-
O3-110 OPIC TAGS: food tecessanch facility Pa BSTRACT: The antiba nd tomato hybrids, constitute im. Lysenko ears. The study distantial antibacteria	nnology, bacter ANT GROWTA cterial proper ultivated at en (Genetiko-sele closed that 1 1 power, 2) th	ria, microbiology, zan 1, PLANT CHEMIST ties of juice from 26	different types of the Genetic Plant have been studied as specimens possible playing antibate a rule, higher to	of tomatoes ant Breeding d for 5 ess sub- cterial pro- itratable

ACC NR: AT6021502

same type of tomato fluctuates in a fixed range, and 4) the antibiotic properties of tomatoes can drastically change inasmuch as they depend on the conditions under which tomatoes grow and ripen. It is suggested that tomatoes for the extraction of juice be selected not only from the standpoint of grobiological and palatable qualities but also from the standpoint of antibacterial properties. Orig. art. has: 1 table.

SUB CODE: 06/ SUBM DATE: 18Mar65/ ORIG REF: 003/ OTH REF: 002

BERANCVA, Hana; PETIZILA, Vladimir

rast separation of rare earths and trinsplutonium elements by ion exchangers. Jaderna energie 9 no.8:266 Ag '63.

1. Ustav jaderneho vyzkumu, Ceskoslovenska akademie ved, Hez

u Prahy.

PETRZILKA, Oldrich, inz.

Some effects of the specialization of rolled stock production. Hut listy 16 no.3:168-171 Mr 161.

l. Technickoekonomicky vyzkumny ustav hutniho prumyslu a rudnych dolu.

FETRZILKA, O.

"Specialization of rolling mills."

Hutnik. Praha, Czechoslovakia. Vol. 5, no. 11, Nov. 1955.

Monthly list of East European Accessions (EFAT), LC, Vol. 8, No. 6, Jun 50, Unclas

PETRZILKA, Oldrich, inz.

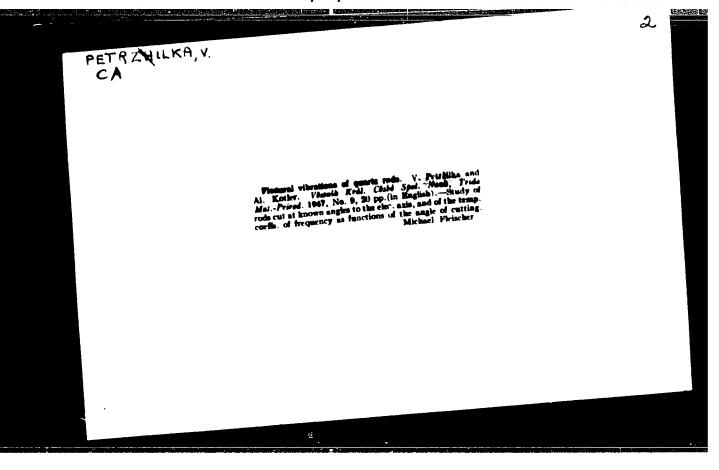
Unification of the work time and rest periods in rolling tills. Hut listy 17 no.2:133-135 F 1/2.

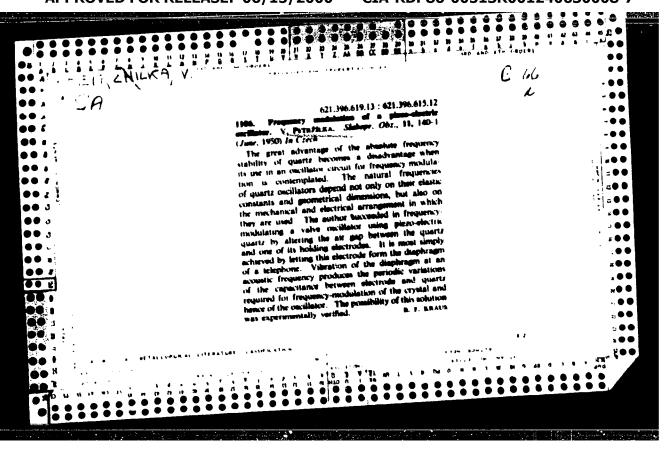
1. Technickoekonomicky vyzkunmy ustav hutniho prumyslu a rudnych dolu, Praha.

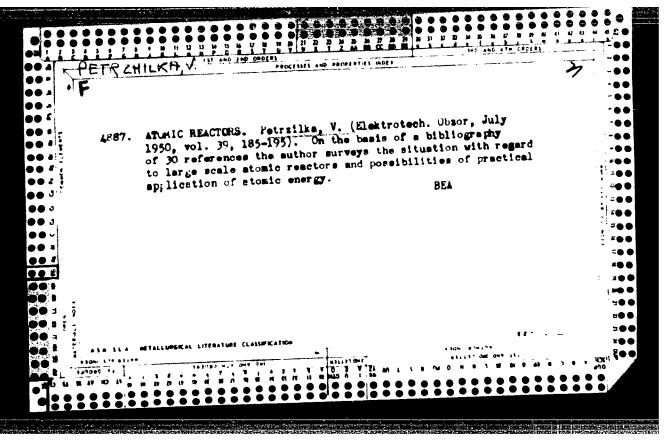
PETRZILKA, Oldrich, inz.

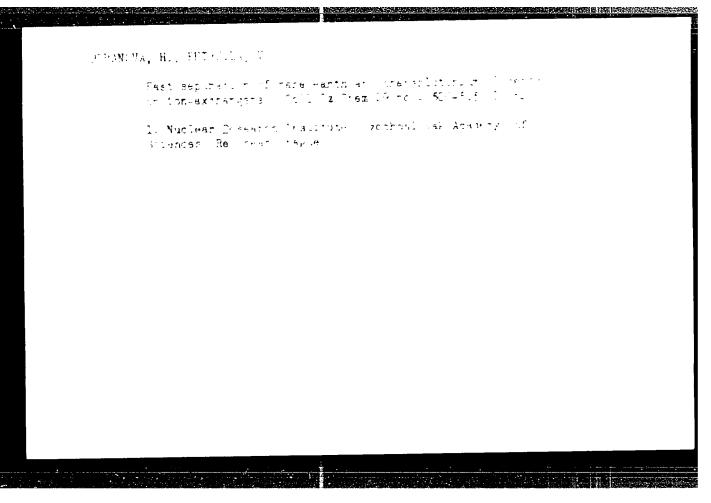
Minimum rolling metal quantity on modern rolling trains. Hut listy 17 no.8:554-558 Ag '62.

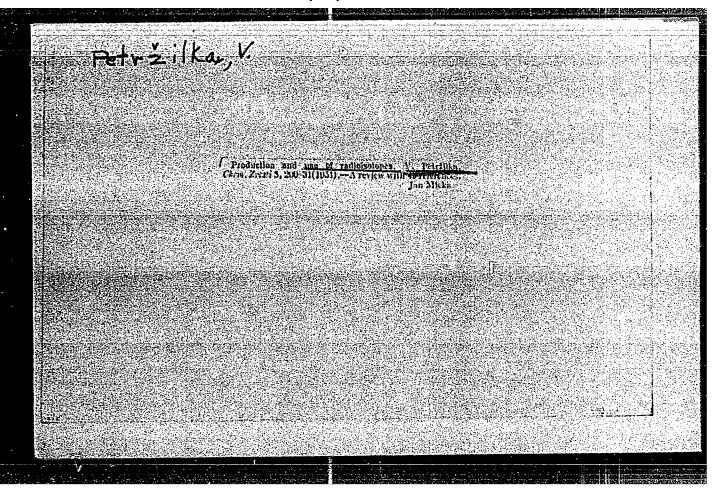
1. Technickoekonomicky vyzkumny ustav hutniho prumyslu a rudnych dolu, Praha.

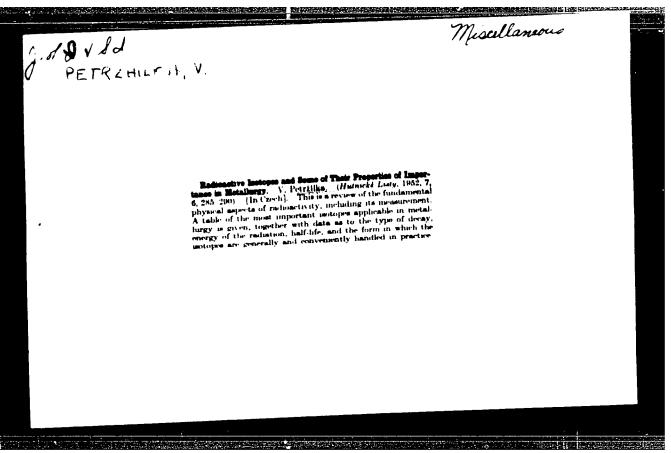


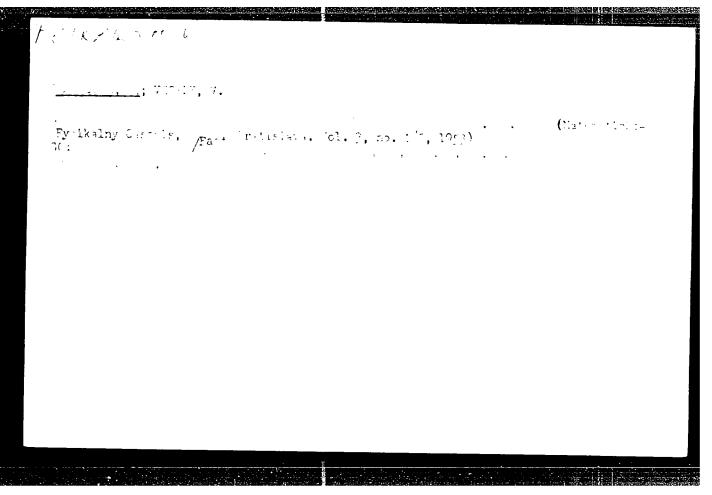


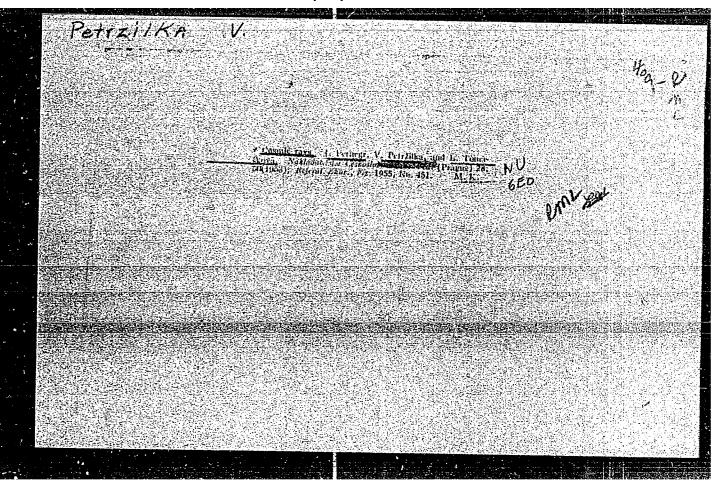


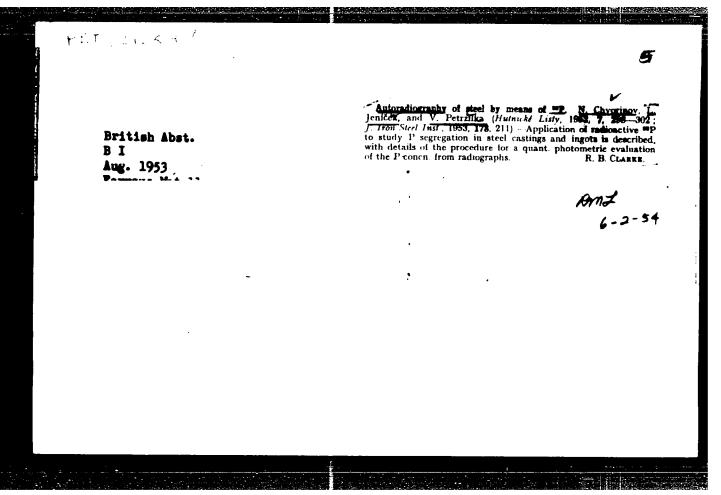












Category : CZECHOSLOVAKIA/Nuclear Physics - Cosmic rays

C-7

Abs Jour : Ref Zhur - Fizika, No 1, 1957 No 653

Author

: Petrzilka, V. : 15 Years of Experimental Study of Cosmic Rays in the High Tatras Title

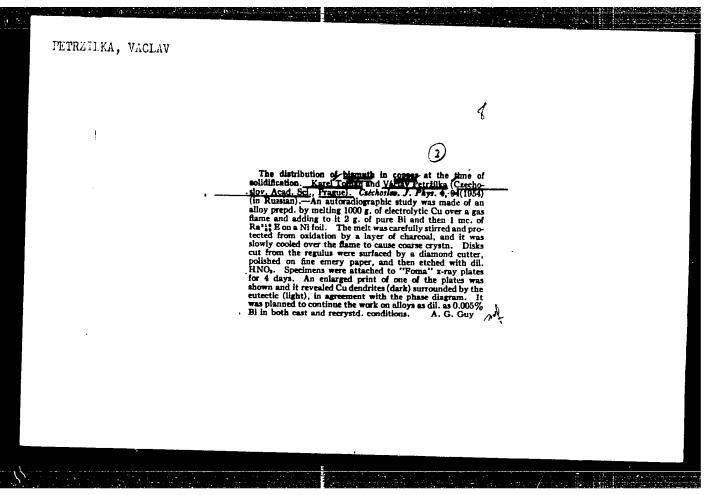
Orig Pub : Mat-fyz. casop., 1954, No 2, 89-94

Abstract: No abstract

Card : 1/1

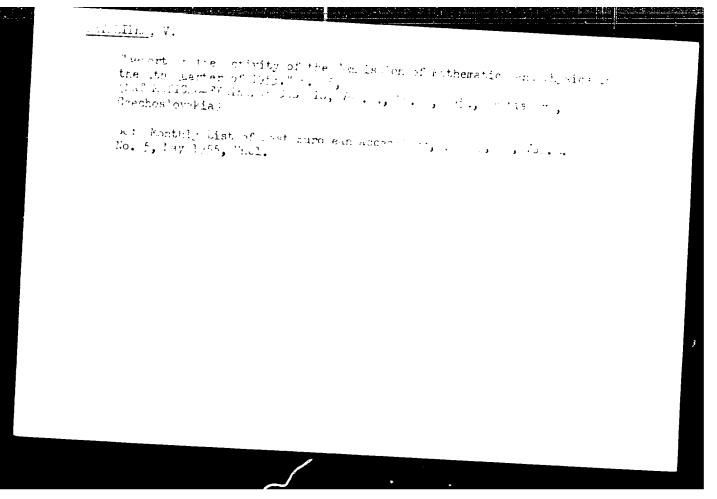
> CIA-RDP86-00513R001240630008-7" APPROVED FOR RELEASE: 06/15/2000

PETRZILKA, V. From uranium to the atomic electric power station, p.12. (Technicke Noviny. Praha, Vol 2, No. 16, August 1954) SO: Monthly list of east European Accessions (EEAL), LC Vol 4, No. 6, June 1955, Uncl



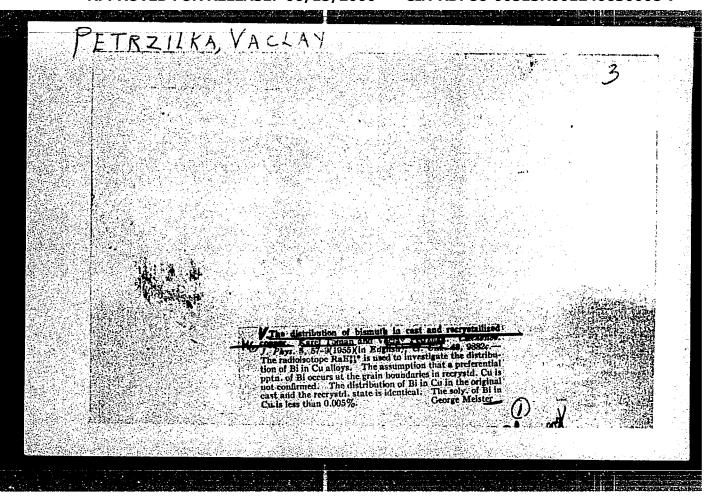
"Establishment of the Geophysical Laboratory of the Slovak Academy of Sciences." p. 95. (MATEMATICKO_FYZIKALNY CASCEIS, Vol. 4, No. 2, 1954, Bratislava,

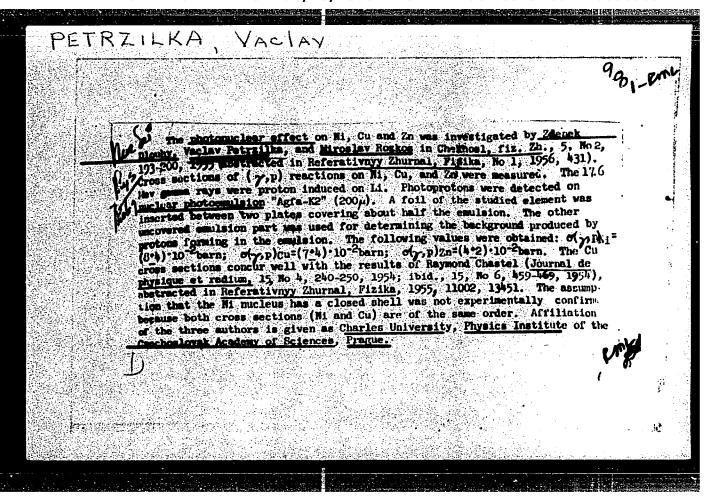
SO: Monthly List of East European Accessions, (EEAL), LC, Vol. 4
No. 5, May 1955, Uncl.

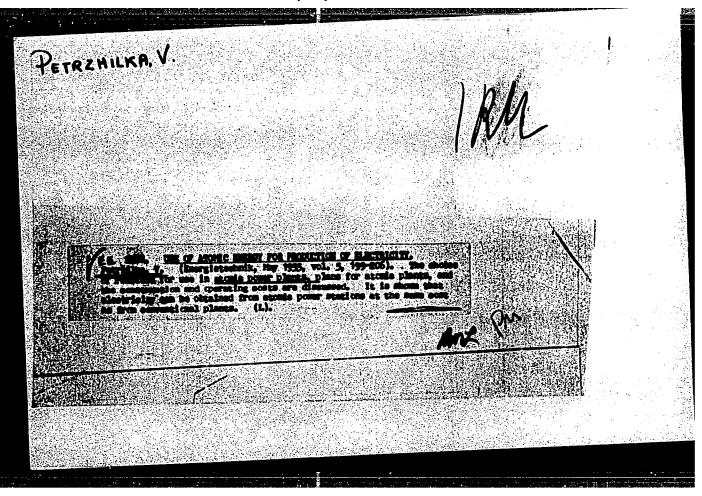


PETRIIKA, V. Zomen, K.: Patrzilka, V. Listribution of bismute in mast red is a reput to a coper. 1. 346. 313 Significant Masters From The Transport of a dept. 1991. So: Monthly List of Mast European Archaelers, (SAME), 13, Vol. 1, 10. 11. 11. 12. 13. 14. 1955, Uncl.

"Proppets of the utilization of atomic energy for production of electric powers."			
"Prospects Energetika,	Fraha, 191. 4, 191. 7, July 1914, 11 11 11.		
SC: Eastern	curopean Accessi ns [i +, -cl. 3, -c. 1], "ov. 14., 1.0.		







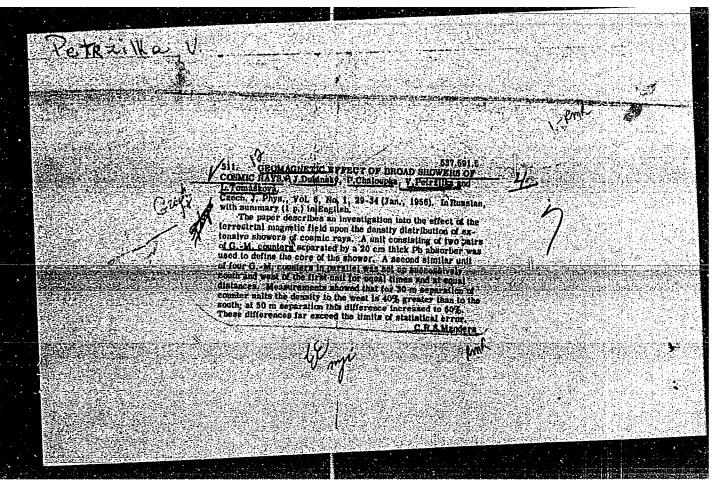
PTTRZILKA, V.

First industrial atomic power plant in the USSR; excerpt from the respective Soviet reports presented to the International Conference on Peaceful Utilization of Atomic Energy in Geneva.

p. 413 Vol. 5, no. 9, Sept. 1955 ZA SOCIALISTICKOU VFDU A TECHNIKU Praha

SO: Monthly List of East European Accessions (EFAL), LC, Vol. 5, no. 2 February 1956

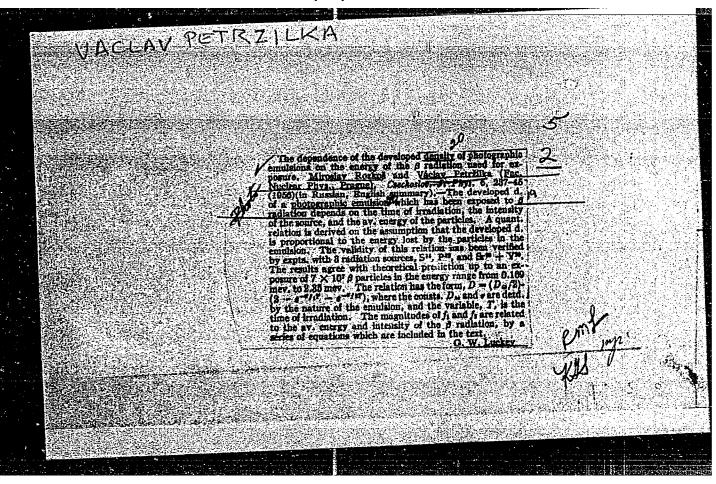
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Petrzilka, V.

Frofessor August Zacek at seventy. P. 107
CESKOSLOVENSKY CASOFIS FRO FYSIKU. (Ceskoslovenska akademie ved. Ustav technicke fysiky) Praha
Vol. 6, no. 1, Jan. 1956

Source: EEAL - LC Vol. 5. No. 10 Oct. 1956



Czechoslovakia/Nuclear Physics - Instruments and Installations. Methods of Measurement and Investigation

C-2

Abst Journal: Referat Zhur -/ Titha, No 12, 1956, 33895

Author: Rozkos, Miroslav and Petrzilka, Vaclav

Department of Technical and Nuclear Physics, Prague, Czechoslovakia Institution:

Dependence of the Blackening of Photographic Emulsions on the Energy Title :

of \beta-Radiation

Original

Ceskosl. casop. fys., 1956, 6, No 3, 287-295 periodical:

A dependence is derived for the blackening of the photo emulsion Abstract :

on the number and energy of the β particles. The curves obtained are compared with the blackening of p32, g35 and Sr90 + y90

by β particles.

Card 1/1

1 .1a21. h., 7.

Progress in the development of red at on costellations are sale to be able to the United Postitute of Auclaum Sens with

p. 210 (dater depreter Vol. 3, co. 5, July 75, Frank, Obecombours):

So: lower toward to a total Acceptance (AI) LO, Vol. o, 30. 1, JA . 1966

PETRZILKA, V.

Discovering of antiprotons,

P. 209(Cexkoslovenska Morfologie, Vol. 5, no. h, 1957, Prata, Crechoslovakia)

Monthly Index of East European Accessions (FFAI) LC. Vol. ?, no. 2, February 1958

PHIRZILKA, V.

Fission of the atom nuclei and the thermonuclear reaction, the tasis for the ise of nuclear energy on a large scale.

F. 48, (Sbirke Vynalezu) Vol. 6, no. 3, Mar. 1957, Praha, Czechoslovakia

SO: Menthly Index of East European Acessions (EEAI) Vol. 6, No. 11 November 1957

PETRZILKA, V.

Physical properties of radioactive isotopes used in technology; in honor of Dionyz Illkovic at fifty. p. 25. (Mathematicko-Fyzikalny Casopis, Vol. 7. No. 1, 1957, Bratislava, Czechoslovakia)

SO: Monthly List of East European Accessions (EEAI) IC, Vol 6, No. 8, Aug 1957. Uncl.

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T. THOLO. W.A. and lear Physics . Teleral

Mes your : Ref mar - Freika, do h, ly h, as how

: Petrzilka, Waclav thor

: Not Given East

: Development of the foint institute for Nuclear Research in Title

the City of Imbno.

rig Pub : Vest. CSA/, 1957, οξ, No 7-4, 여여- 여7

Abstract : No abstract

: 1/1 Card

APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630008-7"

Science

Petrzilka, Vaclav. Metody pro detekci a registraci jaderneho zareni. Praha, Statni pedagogicke nakl., 1958. 202 p. (Ucebni texty vysokch skol)

Monthly Index of East European Accessions (EEAI) LC, Vol. 7, No. 12, Dec, 58

cz/37-58-5-19/19

Professor Dr. F. Behounek, 60th birthday (Prof.Dr. Frantisek Petržílka, Václav AUTHOR:

TITLE: Behounek sedesatnikem)

PERIODICAL: Ceskoslovensky Casopis pro Fysiku, 1958, Nr 5,

pp 631-632 (Czech)

ABSTRACT: Professor Behounek is one of the outstanding Czech radiologists. In 1920 Behounek was accepted for a one year study at the Institut de Radium, Paris by Madame Curie. In 1922 he obtained his degree of Doctor of Natural Sciences. In 1926 he became a member of the polar expedition organised by Amundsen, Ellsworth and Nobile and two years later he participated in the expedition of Nobile with the airship "Italia". In 1933 he was nominated director of the State Radiological Institute. Between 1936 and 1938 he built an observatory for studying atmospheric electricity at Strbske Pleso. In 1953 he was nominated as Corresponding Member of the Czechoslovak Ac.Sc. and in 1954 as a Professor of the Mathematics-Physics Faculty, Charles University in the field of radio-activity. He is now the head of the Chair for Nuclear Card 1/2 Chemistry at the Faculty of Technical and Nuclear Physics,

CZECHOSLOV/KI//Nuclear Physics - Cosmic Rays

C-7

Abs Jour: Ref Zhur - Fizika, No 4, 1959, No 5267

: Pernegr J., Petrzilka V., Vrana J.

: Physics Institute, Czechoslovak Academy of Sciences, Karlovy huthor Inst

University, Pragus, Czechoslovakia

: Interaction of Nucleons at Energies of 101 -1015 ev/Nucleon Title

Ori; Pub: Ceskosl. casop. fys., 1958, 8, No 1, 67-76

Abstract: Description is given of a jet of type of 0 + 14 a at an energy of 3.3 \pm 5.3 x 10^{14} ev/nucleon, observed in a stack of nuclear emuisions exposed during the time of the exposition on the river Po. From the axis of the meson jet at a distance of 4.2 mm from the primary interaction, there was observed a secondary interaction with an unexpectedly small multiplicity of the type 044, apparently produced by the following nucleon from the primary particle. The particles of a narrow constorm an angle on the order of 10 radians with the axis of the jet, and the particles of the diffused cone form an angle on the order of 10 radians. Such a clear anisotropy

: 1/2 Card

CZECHOSLOVAKIA/Nuclear Physics - Cosmics Rays.

C.

: Ref Zhur - Fizika, No 7, 1959, 15038 Abs Jour

: Pernegr, Jaroslov; Petrzilka, Vaclav, Vrana, Jiri Author

: Institute of Physics, Czechoslovak Academy of Sciences. Inst

Charles University Prague, Czechoslovakia

: An Interaction of Nucleons at an Energy Between 1014 and Title

1015 ev/nucleon

Chekhosl. fiz. Zh., 1958, 8, No 2, 137-147, 268a Orig Pub

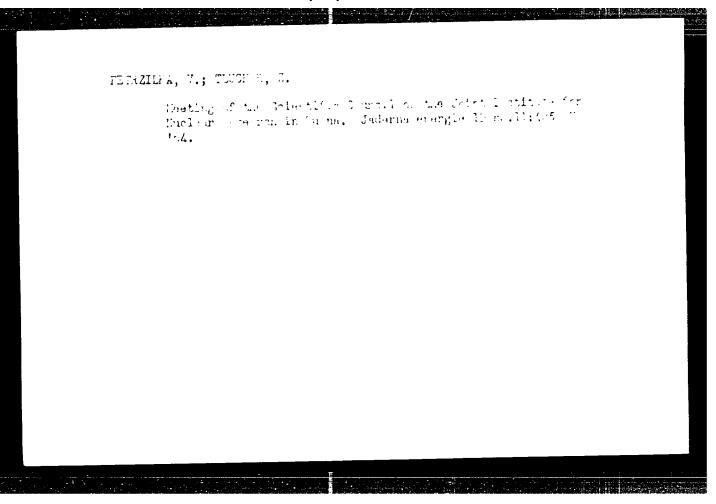
In an emulsion chamber, exposed at an altitude of 33 km Abstract

an interaction of the type $(0 + 14) \wedge$ was observed at an energy $(3.3 + 5.3) \times 10^{14}$ ev/nucleon. Along the axis of

the "jet" there was observed a second interaction with

very small multiplicity ($n_g=3$ or 4), probably caused by another nucleon of a primary \varkappa particle.

Card 1/2



to/a/f9-f1-4-11 3.9000 Petržilka, Vaciav, Cornestronding Member 3.2400 The Discovery of Two Extraordicarily Intensive Zones of Cosmic back AUTHOR ation Around the Earth TITLE Věstník řeskoslovenské akademie (řá. 1959), Nordo, pr. 1970-bor The discovery of cosmic radiation was made possible by means of PERIODI AL measuring instruments in high-altitude ballcons, www.lin proved that the intensity of radiation increases with the altitude and, therefore, this radiation is supto radiation increases w. o one androuse rad, there exist. One radiation of the measuring increases, then e "tosmic" radiation of the measuring increase in the second Soviet satellite proved the increase in interest of the second soviet satellite proved the increase in interest. ation beginning at an altitude of one unit a pronounced rapid acceleration for ween 400 and 700 km Frofessor N.S. Věrtov and n.19 collarova restried . explain this increase in intensity of cosmic radiation over 200 km to their work [Ref 3] by "global corpuscular radiation" orsisting of charge Lattices (.tw. or ir the magneti: field. The measuring instruments in the third for the facility equipped with a stintillation counter brought further experiments, facts around this photography this phenomenon particularly, as far as the contribution by electron and on Total on an increase in incensity of cosmic radiation at along describe to know

Card 1/4

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The Dis over for two Extra rithing by the Lanes of Chart Fig. 1 the the Earth

crystal S, which was deposited inside the distribution of the multiplier mode of a 40 mm. The armitist of the multiplier mode of a 40 mm. The armitist of the multiplier mode of a 40 mm. The armitist of the mode of the distribution of setting the distribution of setting the first one was allest property of the mode of the mode of the first one was allest property of the mode of the distribution of setting the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the mode of the first one was allest property of the first property of the first property of the fir

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cz/2-59-5-1/33

The Discovery of Two Extraordinarly Intensive Zones of Cosmic Radistion : the Earth

Ascording to Vernov it is more useful to call the zones "outer" (polar) and "inner" (tropic) zone. As far as the composition of the inner zone is concerned, it is formed partly by protons, partly by electrons according to van Allen The protons with an energy of the order of 100 Mev form the hard structure of the zone while the electrons with an energy of up to 1 Mev constitute the soft zone, have ing an energy spectrum which decreases quickly to low energies. Protons and electrons in the inner zone come most probably from the disintegration of the neutrons which originate during the interplay of cosmic radiation with the atmosphere of the Earth and its surface. It is possible that even the particles (electrons) from the outer zone are mingling with those of the inner zone, the outer zone consisting entirely of electrons. Finally, there is no doubt that similar zones of a high radiation intensity exist around other planets like Moon, Mars and Venus. The zone around the Moon probably will not have a high intensity, if it exists at all, considering the small magnetic momentum of the Moor. There are 7 diagrams and 20 references, 10 of which are Soviet, 4 Czechosiovakian and 6 English.

Card 3/4

CZ/2-59-5-26/33

AUTHOR.

Petržilka, Václav, Corresponding Member

TITLE

Conference on Cosmic Radiation and or the Physics of high Energies

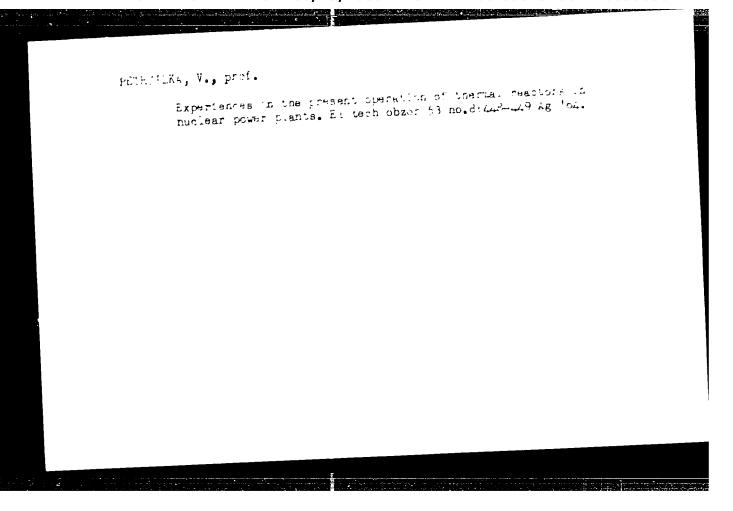
in the USSR

PERIODITAL Věstník československé akademie věd. 1959, No 5, pp 664-676

The international conference on cosmic radiation was neid in [4.7] TEXI. 1959 in Moscow. The following scientists and their papers are mentioned Atademician D.V Skobelcyn - The Importance of Cosmic Radiation for the Knowledge of Structure and Characteristics of Atomic Nuclei; Doctor Grigorov - Spectrum of the Electron-Photon Cascades, Professor Janossy Determination of the Acsorption Length of Widespread Airshowers. Professor Hrimyanov - Fivision of Particles Originated During Interplays and During the Pulse between 240 42 Mey/c; Doctor J. Fernegr and Simak - Results Achieved During the Chart 10.0 Asymmetry of Angle Composition of Farticles Sent off During Interplay of the Radiation Particles with an Atomic Nucleus, Professor Variolomey-v Exper. mental Results on 15 Electron Photon Castaies Frotesson Actkhantan Atle := il: vision of the Mesons A Doctor Chudakov Report or Measuring the Cheretic Radiation in Widespread Snowers of Cosmic Padiation at the Moscow Colversity

Card 1/2

1 8823-66 EWT(m) DIAAP	
ACC NR: AP6001529	SOURCE CODE: CZ/0038/65/011/010/0361/0368
• •	291
AUTHOR: Petrailka, Vaclay-Petrahi	ilka, V.
(RG: Faculty of Technical and Nucl	lear Physics, Prague (Fakulta technicke a jaderne
fysiky)	55
TITLE: Discovery of proton radiosc	ottvity 19,55
SOURCE: Jaderna energie, v. 11, no	5. 10, 1965, 361 -3 68
	ecay, particle bombardment, particle beam, atomic
tons is reported. These miclei were either in a beam of heavy ions or emitted protons either in a process at transition, by a mechanism similar model. It is shown that there	on decay of atomic nuclei having an excess of pro- re produced by bombarding atoms of some elements in a beam of fast protons. Radioactive nuclei s analogous to the radioactive edecay, or after the lar to the delayed neutron emission during fission exists the possibility of producing nuclei decaying tically all elements. Orig. art has: 15 figures,
SUB CODE: 20 / SUBM DATE: none	/ OTH REF: Oll / SOV REF: Oll
GVK Cord 1/1	
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FSS-2/ENA(1)/FCC/EEC(b)-2/EWP(k)/ENA(h) JHB/WS-L

cz/0037/64/000/006/0542/0547

ACCESSION WR: AP5024324

AUTHOR: Petrailka, Vaclay A. 44,55

TITIE: Ball lightning

SOURCE: Ceshoslovensky casopis pro fysiku, no. 6, 1964, 542-547

TOPIC TAGS: lightning, plasma physics, quantum theory, atmospheric model

ABSTRACT: Ball lightnings are described and a detailed account is given of known experimental facts obtained by random observations. Models of ball lightnings are described and the possible relation between the theory of the ball lightning and the plasma theory is discussed. The possibility of using results of the quantum theory of solids in the physics of superdense high-temperature plasma is pointed out. Orig. art. has: 6 formulas.

ASSOCIATION: Ustav fysiky plasmatu CSAV, Prague (Plasma Physics Institute,

Gsechoelovak Academy of Sciences)

SUMMITTED: 12Sep63

MR REF 507: 000

Card 1/1/1

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OTHER: OLS

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Ball lightning. To cas fye 14 no.61542-547 164.

1. institut of Flasma Thysics, Czechoslovak Academy of Sciences, Frague.

L 10235-63 BDS/ENT(E)--AFFTC/ASD--IJF(C)
ACCESSION BR: AF3000041 S/0056/63/044/005/1497/1499

AUTHOR: Ben, Ya.; Bohn, J.; Petrzilka, V.; Suk, M. (Z) 59

TIME: Peripheral pion-micleon interactions at 7 Bev.

SOURCE: Zhurnal eksper. 1 teoret. fiziki, v. 44, no. 5, 1963, 1497-1499

TOPIC TAGS: Pion-nucleon interactions, one-pion exchange model, Fermi statistical theory

ARSTRACT: An attempt is made to select peripheral negative pion-nucleon interactions which can be described by a one-pion exchange model. The criteria used to select the events are listed. Altogether, 101 events satisfied the criteria from among 951 Pi-minus N interactions. From the fact that the number of (Pi, N) and (Pi, Pi) isobars among 169 events is relatively small, it is concluded that the number of events going through the isobar channels is only a small fraction of the total number of the Pi-minus N interactions at 7 Bev.

The authors would like to thank <u>E. Fenyves</u>, <u>K. Lanius</u>, and <u>K. D. Tolstov</u> for permission to use their experimental data, and <u>J. Pernegr and V. Simak</u> for an

Cord 1/2

L 10235-63
ACCESSION R: AP3000041
Interesting discussion and advice." Orig. art. has: 2 figures, 8 formulas.

ASSOCIATION: Czechoslovak Technical University, Prague

SUBMITTED: 14pec62 DATE ACQ: 12jun63 ENCL: 00

SUB CODE: PH NR REF SOV: 002 OTHER: 005

Card 2/2

BOET, F.; in HITHER, V.; SUN, P..

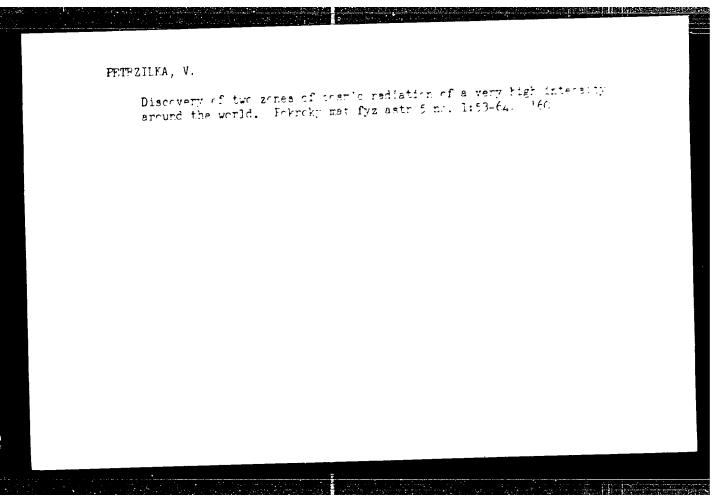
on peripheral pion-nucleon interactions at " GeT.
Chekhosi fiz zhurnal 13 no.10:703-709 '63.

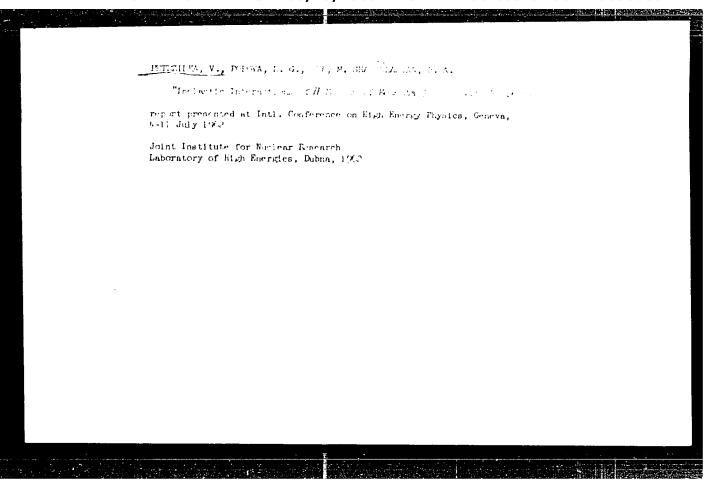
l. Fakulta technicke a jaderne fyziky, Ceske vysoke ucch.
technicke, Fraha.

PETRZILKA, Vaclav, prof.m RNDr.

Development of the Joint Nuclear Research Institute and of its scientific work. Jaderna energie 3 no.7:216-217 J1 '57

1. Fakulta technicke a jaderne fysiky, Karlova unicersita.





PETRZILKA, Vaclav

Discovery of two very intensive zones of cosmic radiation around the world. Vestnik CSAV 68 no.5:557-567 159.

1. Clen korespondent Ceskoslovenske akademie ved.

PETRZIIKA, Vaclay

Conferences on Cosmic Radiation and High Energy Physics in the Soviet Union. Vestnik CSAV & no.5:6/4-676 159.

1. Clen korespondent Ceskoslovenske akademie ved.

PETRZHILKA, V

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3.24/0

AUTHORS:

Penivesh, E., Prenkel', A., Telbita, F., Pernegr, Ya., Petrzhilka, V., Sedlak, Ya., ani Vrana, I.

TITLE:

Investigating high-energy electron-photon cascade in

emulsions

SOURCE:

International Conference on Cosmic Radiation. Moreak, 1959. Trudy. v. 2. Shirokiye atmosfernyye livni i kas-kadnyye protsessy, 307-310

TEXT: The energy spectrum of the primary photon was determined; the energy spectrum of pairs formed at depths of up to 1.5 units was studied. The obtained spectra were compared with the distribution based on Bethe-Heitler's theory, and with that based on Misial's firmulas (a further development of the Landau approximation). The energy E of the primary photon was determined by the Chudakov-Perkins effect, by the longitudinal and lateral shower development, and also by Pinkau's method. The values for the primary energy,

Card 1/ 3

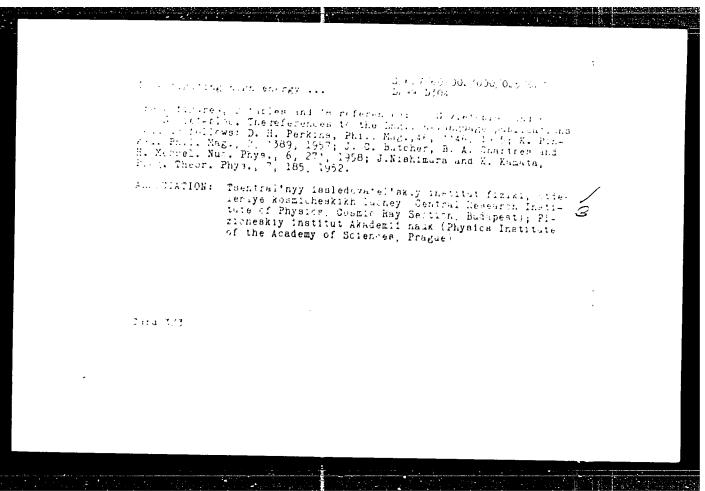
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P

Investigating high-energy ...

obtained by shower development in the approximations A and B, were underrated. A more accurate energy estimate is obtained by means of the curves of A. A. Varfolomeyev and I. A. Svetlolobov (Ref. 11: ThETP. 36, 1771, 1959). The data of Ref. 11 yielded a higher value for the primary energy. In the following, a primary energy of electron pairs was determined either by E. Lohrmann's method (Ref. 15: Nuovo Cim., 2, 102), 1955) or by measuring multiple scattering. In some cases both methods were used. The results are shown in a table and in 2 figures which also exhibit (for comparison) two theoretical curves corresponding to Bethe-Heitler's and Migdal's formulas, respectively. The authors conclude that by studying only one or a few cascades, no definite decision can be made as to the validity of either Bethe-Heitler's or Landau-Migdal's theory. In this light, the present investigation should be considered as a contribution to the general statistics of cascades, investigations of a larger number of shower cascades being required before reaching a definite conclusion. The authors express their thanks to Professors Yanoshi, Parkas and Danysh. There

Card 2/3



3,2420

Petržilka, V.

TITLE:

AUTHOR:

The discovery of two cosmic-radiation helts surrounding

the earth with extraordinary high intensity

PERIODICAL: Pokroka matematiky, fysiky a astronomie, no. 1, 1960, 53-64

TEXT: The author gives a comprehensive report on high-intensity cosmic radiation recorded by instruments installed in Soviet and US satel-lites and rockets. The information contained in this article is based on reports delivered by Professor S.N. Vernov and and collaborators and Professor J.A. Van Allen at the Moscow International Conference on Cosmic Radiation in July 1959, and on Soviet and US literature authored mostly by the above two scientists. Geiger-Müller counters installed in the second Soviet earth satellite recorded increased cosmic radiation starting at an altitude of 200 km with a very prominent increase at altitudes of 400-700 km. Based on these measurements, so-called isocesms

Card 1/7

The discovery of two...

were established which proceed parallel to geographic parallels and increase with the geographical latitude. The radiation measured by Vernov and his colleagues at equal altitude between 30 and 150 E and at 43, 54, and 62 N produced 18, 27 and 36 impulses/sec on the registration devices of the second earth satellite. (The same instruments recorded a 50% radiation-intensity increase at 58 geographic latitude on 7 Nov 57 from 0436 to 0449 hours astronomic time). Vernov attributes the increased cosmic-radiation intensity to a so-called "terrestial corpuscular radiation". According to his theory, the earth and its atmosphere becomes, under the influence of cosmic radiation, a source of neutrons which protunder the influence of cosmic radiation, originating from the decay of these neutrons, move then along magnetic lines of force and approach one of the poles till to a certain magnetic latitude magnetic field (H) increases to 90°. The charged particles then

Card 2/7

26912 **z/028/60/000/001/002/003 p244/p301**

The discovery of two...

reverse their course and travel on the same line of force toward the other magnetic pole. At high altitudes (1,000 - 3,000 km), charged particles originating from neutrons with energies 2 1 mev, perform 10^8 and more flights between turning points and possess great energies. Vernov and his collaborators also calculated the amounts of electrons and protons originating per sec above certain magnetic latitudes; and the intensity of "terrestial corpuscular radiation" at certain geomagnetic latitudes and altitudes (Ref. 3 N.S. Vernov, N.L. Grigorov, J.P. Ivananko, A.J. Lebendinskiy, V.S. Myrzin, A.E. Chudakov Dokl. AN SSSR, 124 (1959), 1022). It must be admitted that calculated and experimentally measured values are not in quantitative agreement, but the calculations must still be considered a theoretical attempt to explain the increase of radiation intensity at altitudes around 1,000 km. Additional data on cosmic radiation, expecially its increase caused by electrons and photons, were obtained from the scintillation counter of the third Soviet satellite. The instrument, intended to record the frequency of impulses corresponding to energies = 35 kev, employed an NaI(Tl) crystal shielded with an Al casing. The anode and dynode current

Card 3/ ?

The discovery of two...

were measured simultaneously, a method which allows the entire ionization and the energy spectrum of the cosmic radiation to be measured. A special circuitry allowed currents as low as 10-10A to be measured. The data were radiotelegraphically conveyed to the earth by the transistorized "Majak" 3-channel transmitter operating at a frequency of 20 Mc/sec. Data, continuously transmitted during the orbiting, led to the conclusion that the earth is surrounded by two belts of highly-intensive cosmic radiation. The first belt, called the "polar zone" or "outer zone" devenlops at geomagnetic latitudes above 60 and at altitudes above 300 km. It is predominated by electrons with energies in the order of 100 kev. The flux in this zone is estimated 103 - 104 particles/cm2/sec./ster. The second belt, called the "equatorial zone" or "inner zone" was also observed by Van Allen and measured by instruments installed in Explorer I and II satellites. It is dominated by large numbers of protons, develops at altitudes around 1,000 km and does not exceed 500 of geomagnetic latitude. The radiation intensity measured in this zone is of three orders higher than that of primary cosmic radiation. The Soviet cosmic

Card 4/7

The discovery of two ...

rocket launched on January 2, 1959 was equipped with two G_e iger-Müller counters and two scintillation counters for registering radiations with threshold energies of 45 kev, 450 kev and 4.5 mev at altitudes of $8,000 \dots$ 150,000 km. It was found that an energy maximum exists at 26,000 km. while the intensity at 55,000 km drops practically to zero. It was again confirmed that the radiation intensity depends not only on the altitude, but also on the geomagnetic latitude. Intensities measured at 60 line of force (according to Vernov and his colleagues this line of force which intersects the earth surface at 60° geomagnetic latitude) at 400, 1,800, 5,600, and 14,000 km are in the ratio of 1. 20: 200. 700. The integral energy spectra for radiation at altitudes of 40,000 ... 50,000 km (Abstractor's note: Here called the "outer zone" were determined with the aid of a shielded scintillation counter and supplemented by measuring results of Geiger-Müller counters. It was found that this region is dominated by Roentgen radiation with an energy of 50 \sim 69 keV. As to the intensity of neutrons in the "outer zone", Vernov and his colleagues assume that values vary at different altitudes and reach a minimum of \sim 25 keV in the center of the zone (intensity

Card 5/?

The discovery of two...

maximum). The energy of neutrons in the intensity maximum can also be derived from data recorded by the second (unshielded) scintillation counter which measured a flux of 2 > 10¹¹ ev/cm²/sec/ster. Since the first scintillation counter (shielded with an Al layer) recorded undersame conditions a flux of 1.5 $^{\circ}$ 10 9 ev/cm²/sec/ster, the exponent of the neutron-energy spectrum N (> E)~ E' b', can be estimated p ~ 5; for regions of lower intensity (borders of the zone), the exponent becomes f ~3. The flux measured by the unshielded scintillation counter of the Soviet cosmic rocket does not fully agree with the flux measured by Van Allen (1015 ev/cm2/sec/ster.). This difference might be caused by slow protons existing in the "outer zone". The article also lists some data recorded by US Explorer and Pioneer satellites. In conclusion, the author assumes that similar belts of increased radiation intensity will also exist around other planets of the solar system. The radiation around the Moon will either be very intense, or not exist at all, due to the weak magnetic moment of the Moon. There are 7 figures and 20 references. 13 Sovietabloc and 7 non-Soviet bloc. The reference to the four most recent English-language publications reads as follows J.A. Van Allen, C.E.

Card 6/7

The discovery of two...

Mc Ihwain and G. H. Ludwig, J. Geophys. Res. 64 (1959), 271; J.A. Van Allen and L.A. Frank, Nature, 183 (1959), 430; J.A. Van Allen and L.A. Frank, Nature (printing); J.A. Van Allen and collaborators, Report Conference on Cosmic Radiation, Moscow, July 1959.

Card 7/7

BELYAKOV, V.A.; VAN SHU-PER' [Mang-Shu-fên]; GLAGOLEV, V.V.; DALEHAZHAV, N.;
LEBEDEV, R.M.; MEL'HIKOVA, N.N.; NIKITIN, V.A.; PERZHILKA, V.;
SVIRIDOV, V.A.; SUK, N.; YOLSTOV, K.D.

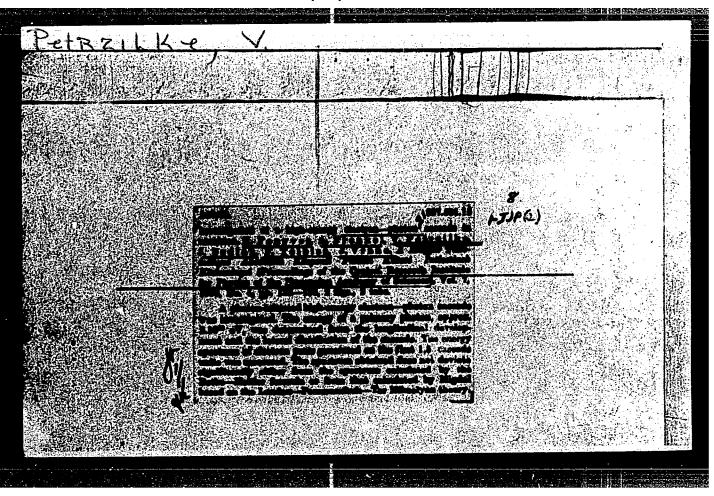
Inelastic interactions between 7 Bev \(\textit{T} \) -mesons and nucleons.

Zhur. eksp. i teor. fiz. 39 no.4:937-947 O '60. (MIRA 13:11)

1. Ob*yedinennyy institut yadernykh issledovaniy.

(Mesons) (Nucleons)

"APPROVED FOR RELEASE: 06/15/2000 CIA-RDP86-00513R001240630008-7



PHASE I BOOK EXPLOITATION

CZECH/5188

- Petržílka, Václav, Professor, Doctor, Corresponding Member of the Czechoslovak Academy of Sciences; Josef B. Slavík, Professor, Doctor, Engineer; Ivan Solc, Doctor; Oldřich Taraba, Engineer, Doctor; Jan Tichý, Doctor, and Jiří Zelenka, Engineer
- Piezoelektřina a její technické použití (Piezoelectricity and Its Technical Use) Praha, Nakl. Československé akademie věd, 1900. 534 p. 1,300 copies printed.
- Sponsoring Agency: Československá akedemie věd. Sekce matematickofysikální. Scientific Editor: Emanuel Klier, Docent, Doctor; Reviewer: Josef Beneš, Professor, Doctor; Ed. of volume: Antonín Burda.
- PURPOSE: The book is intended for students of schools of higher education, physicists, and for scientific and technical personnel concerned with the use of piezoelectricity in electrical engineering, construction, chemistry, biology, medicine, and other fields of science.

Card 1/17

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Piezoelectricity and Its Technical Use

CZECH/5188

COVERAGE: The book consists of two parts. The first part deals with the basic physical properties of piezoelectric crystals, the vibrations of piezoelectric resonators, and the technology of producing crystal elements. The second part is devoted to applications of piezoelectric crystals in various branches of engineering, particularly the following: the control of the frequency of broadcasting stations and radio transmitters in general; the production of very selective filters used in longdistance telephone lines and single-sideband transatlantic radiotelephone systems; the production of stable oscillators and timekeeping systems; the generation of ultrasonic waves; and measuring technique. About twenty years ago a book written by two of the present authors, V. Petržilka and J. B. Slavík, was published under the title "Piezoelektrina a její použití v technicke praxi" (Piezoelectricity and Its Uses in Engineering Practice). In 1951 the book "Piezoelektrina I " (Piezoelectricity I), written by V. Petrzilka and consisting of a major expansion of the physics section of the earlier edition, was published. The present book, written in cooperation with former students of the

Gard 2/17

Piezoelectricity and Its Technical Use

CZECH/5188

original authors, represents, therefore, a third version of their work. V. Petržílka edited Part I and also wrote Ch. I. I. Solc wrote Ch. V. Par. 4 of Ch. VII, and Ch. XI. J. Tichý wrote Ch. II (except Par. 6), Chs. III, IV (except Par. 6), VI (except Ch. II (except Par. 6), Chs. III, IV (except Par. 6), VIII and IX. Pars. 6 and 9), VII (except Pars. 4 and 5), VIII and IX. J. Zelenka wrote Par. 6 of Ch. VI, Par. 5 of Ch. VII, and Ch. X. J. Zelenka wrote Par. 6 of Ch. VI, Par. 5 of Ch. II, deal-V. Janovec, Candidate of Sciences, wrote par. 6 of Ch. II, deal-V. Janovec, Candidate of Sciences, wrote par. 6 of Ch. IV, and, together ing with ferroelectric materials, Par. 6 of Ch. IV, and, together with Doctor H. Arend, Par. 9 of Ch. VI. Part II was written by with Doctor H. Arend, Par. 9 of Ch. VI. Part II was written by Taraba in collaboration with J. B. Slavík, who also edited this O. Taraba in collaboration with J. B. Slavík, who also edited this Oaraba in collaboration with J. B. Slavík, who also edited this Oaraba in collaboration with J. B. Slavík, who also edited this Oaraba in collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited this Oaraba in Collaboration with J. B. Slavík, who also edited thi

Card 3/17

	Piezoelectricity and Its Technical Use CZE	
T11	glossary of translations of special terms in piezoele to Czech from the following languages: Russian, Engl d German.	ectricity ish, Fre
TABLE	OF CONTENTS:	
	PART I.	
Ch. I.	History and Meaning of Piezoelectricity	23
Ch. II	. Nature of Piezoelectricity, Pyroelectricity, and	
	rerroelectricity	28
1.	Polarization of the dielectric	28
ર-	Electrostriction Pleggelectricity	29
4.	Piezoelectricity Pyroelectricity	30
5.	Electret	30 34 35 37
6.	Electret Perroelectric substances	35
	1) Definitions and crystallographic classification	31
	of ferroelectric substances	38
Card 4	T17)	•